Bibliometric Analysis of the Influence of Fundamental Political Policies on Gold/USD Price Movements

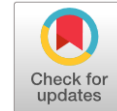Anthony Andrew Wahyu Kusumo Hadi[*]

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Abstract

*In the wake of rising geopolitical tensions and economic uncertainties, understanding how fundamental political policies influence gold and USD price dynamics is critical for investors and policymakers. This study aims to systematically map existing literature on the interplay between policy decisions and gold/USD movements using a qualitative bibliometric approach. The author retrieved 1,000 publications from Google Scholar (2020–2025), extracted publication metrics via Publish or Perish, and visualized co-authorship and keyword co-occurrence networks with VOSviewer. Four thematic clusters emerged: (1) digital finance and system scalability, (2) policy uncertainty and crisis impact, (3) market efficiency and political dynamics, and (4) emerging financial technologies. High-relevance terms such as wavelet, pandemic, scalability, blockchain, and political risk underscore the dominance of advanced quantitative methods, crisis-driven market analysis, infrastructural challenges, and policy-induced volatility. Our findings highlight the importance of integrating economic, political, and technological dimensions to inform adaptive policy frameworks and stabilize markets. This bibliometric synthesis provides a foundation for future empirical research exploring policy-driven gold and currency price behavior. **This research makes an original contribution** by applying a comprehensive bibliometric analysis to map the evolution of literature on fundamental political policies and gold/USD price dynamics, and by identifying underexplored research gaps.*

Keywords: Gold Prices, Political Policy, Bibliometric Analysis, VOSviewer, and Financial Technology

JEL Classifications: C8, E4, G1, and F5

Introduction

The price of gold and the exchange rate of the United States dollar (USD) are two key indicators in the global financial system that are heavily influenced by various

fundamental and external factors. In situations of economic and political uncertainty, investors tend to use gold as a safe-haven asset. The dynamics of gold price movements are driven not only by physical supply and demand but also by macroeconomic issues such as inflation, interest rates, and the monetary policies of major economies (Changani, 2024; Madani & Ftiti, 2022). Changes in global political conditions—especially those involving conflict or geopolitical tension—also exert a significant impact on gold price volatility and the strength of the USD (Chiang, 2021; Reivan-Ortiz et al., 2023).

In recent years, the COVID-19 pandemic, the Russia–Ukraine war, and economic policy uncertainty have been the primary triggers of global market fluctuations. This environment has driven a surge in academic studies exploring the relationships among fundamental factors, political policies, and gold price movements. Concurrently, the emergence of financial technologies such as blockchain, cryptocurrency, and Central Bank Digital Currency (CBDC) has expanded the analytical framework needed to understand increasingly complex market mechanisms (Allen et al., 2022; Hairudin et al., 2022). This evolution has highlighted the necessity of redesigning analytical approaches capable of systematically mapping major themes and research trends.

This study employs a bibliometric method grounded in qualitative analysis to discern publication patterns related to the topics of "fundamental factors," "political policy," and "gold price movements/USD." Utilizing VOSviewer software alongside bibliographic data from Google Scholar and Publish or Perish, the Author analyzed 1,000 publications from 2020 to 2025. The visualization results revealed four major clusters: the blue cluster, focusing on scalability, finance, CBDC, and digital financial systems; the red cluster, addressing uncertainty, evidence, and the pandemic's impact; the green cluster, covering politics, growth, and market efficiency; and the yellow cluster, related to blockchain technology and scholarly reviews (Wang et al., 2024; Mensi et al., 2020; Fernández-Avilés et al., 2020).

In the term-frequency and relevance table, terms such as scalability (178 occurrences), blockchain (62), uncertainty (54), politics (44), system (51), as well as gold price (25) and oil price (43) occupy prominent positions. This distribution indicates that the current literature places significant emphasis on the effects of political and systemic uncertainty on commodity values, alongside the urgent need to develop adaptive and efficient financial systems (Gupta et al., 2022; Cao & Ling, 2022; Alam et al., 2022). Such a context underscores the critical importance of integrating political, technological, and economic variables when analyzing gold price movements and the strength of the US dollar.

Therefore, this research aims to construct an intellectual map of the literature examining the interconnections among fundamental factors, political policies, and gold price movements/USD. By adopting a bibliometric approach, the study depicts the landscape of scientific publications and explores thematic trends, concept interrelationships, and future research opportunities. The findings are expected to provide a foundational basis for strategic policy formulation and the development of more in-depth empirical studies in global finance.

Literature Study

Research on gold price dynamics traditionally builds on the concept of gold as a "safe-haven" asset, where investors flock during periods of economic and political turmoil (Madani & Ftiti, 2022). Classical portfolio theory further positions gold as a hedge against inflation and currency depreciation, driven by macroeconomic fundamentals such as interest rates and real economic growth (Changani, 2024). Empirical studies using time-series models have demonstrated that variables like inflation, money supply, and sovereign debt levels significantly influence gold/USD movements (Changani, 2024; Qin et al., 2020).

A second stream of literature examines the role of policy uncertainty and geopolitical risk in shaping precious metal markets. Economic Policy Uncertainty (EPU) indices are frequently employed to capture the informational environment, revealing that spikes in EPU correlate positively with gold price volatility (Soni, Nandan, & Chatnani, 2023). Similarly, geopolitical tensions—measured via news-based risk indicators—have been shown to drive safe-haven demand for gold and weaken the USD, as evidenced in analyses covering BRICS economies (Reivan-Ortiz et al., 2023; Chiang, 2021).

Recent research has integrated advanced quantitative methods—notably wavelet-based and multifractal analyses—to trace volatility patterns across multiple scales (Mensi, Vo, & Kang, 2022; Wang et al., 2024). These approaches capture non-linear dynamics and regime shifts that conventional linear models may overlook, offering richer insights into how shocks propagate through gold and currency markets.

Finally, the emergence of digital finance and monetary innovation has broadened the analytical landscape. Studies on blockchain, cryptocurrencies, and Central Bank Digital Currencies (CBDC) highlight their potential to alter capital flows and safe-haven demand (An, Choi, & Huang, 2021; Allen, Gu, & Jagtiani, 2022). Interdependence analyses between gold, crypto-assets, and fiat currencies reveal shifting hedging properties and policy implications for financial stability (Cao & Ling, 2022; Hairudin et al., 2022).

Together, these streams justify our focus on fundamental political policies, policy-driven uncertainty, and technological innovation as key variables—each supported by a rich body of empirical and conceptual literature—to guide the bibliometric mapping and hypothesis development in this study.

Methodology

This study adopts a qualitative bibliometric methodology grounded in best practices for transparent, reproducible literature mapping (Zupic & Cater, 2015; Van Eck & Waltman, 2010). The author selected Google Scholar for its broad multidisciplinary coverage and extracted metadata on approximately 1,000 publications dated January 2020–March 2025 using Harzing's Publish or Perish. Search terms "fundamental factors", "political policy", and "gold/USD price movements", were iteratively refined to optimize both precision and recall. To mitigate database and keyword biases, landmark works were cross-checked against Scopus and Web of Science, and only English-language articles with full-text access and explicit political determinants of gold pricing were retained, acknowledging that this may exclude some non-indexed or non-English studies.

Bibliographic data (titles, authors, years, sources, citation counts, h-indices) were exported into a structured dataset and cleaned to remove duplicates, standardize author names, and correct metadata inconsistencies. The author applied minimum-occurrence thresholds, five citations per article and three occurrences per keyword, to filter out noise and focus on influential works. This preprocessing ensured that subsequent network analyses would highlight core contributions rather than peripheral mentions.

Temporal trends were analyzed via Publish or Perish by charting annual publication volumes, citation trajectories, and h-index growth to identify surges (e.g., post-pandemic interest in political uncertainty). Network visualization and cluster detection were then conducted in VOSviewer, using association strength normalization by default, where association strength is the ratio of observed co-occurrences to expected co-occurrences under statistical independence and VOS mapping and clustering techniques. The author set the resolution parameter to 1.0 and applied modularity-based clustering, performing sensitivity checks across parameter ranges to confirm cluster stability. This step-by-step procedure follows established guidance for leveraging VOSviewer and Publish or Perish in bibliometric analyses.

Finally, cluster maps and temporal graphs were interpreted in relation to our central question, how do fundamental political policies shape gold/USD price dynamics? And validated through cross-referencing with seminal studies and independent peer review by experts in financial economics and bibliometrics. Authors document all parameter choices and data-cleaning scripts to facilitate reproducibility, while acknowledging limitations due to language restrictions, database coverage gaps, and threshold-dependency. This comprehensive, transparent approach enhances both the robustness of our findings and their utility for future research.

Results and Discussion

Here is an in-depth analysis based on the generated VOSviewer maps (see Figure 1):

a) Blue Cluster: The blue cluster is the largest and most prominent group, featuring items focused on technical aspects such as scalability, digital finance (CBDC), cost, systems, and digital currency (Changani, 2024). Each node in this cluster reflects research emphasizing the importance of operational efficiency and the scalability of digital financial systems in optimizing market performance (Wang et al., 2024). The dense distribution and relatively large size of these nodes indicate that innovations in financial technology deployment, particularly those related to CBDC and digital systems, have become a central topic of intense attention (Allen, Gu, & Jagtiani, 2022). The strong interconnections between nodes demonstrate conceptual and methodological collaboration among studies examining blockchain technology development as the foundation of modern financial infrastructure (Budějovice, n.d.).

b) Red Cluster: The red cluster highlights three main concepts—evidence, uncertainty, and COVID, each represented by similarly sized nodes, indicating that all three elements are equally important in the literature (Madani & Ftiti, 2022). The focus on empirical evidence and uncertainty reflects research efforts to capture the impact of global crises, particularly the COVID-19 pandemic, on financial market dynamics (Gupta et al., 2022). The relationships formed between nodes in this

cluster suggest that high levels of uncertainty have driven studies to explore responsive policy strategies and gather valid data amid crises (Mensi et al., 2020).

c) Green Cluster: The green cluster combines concepts such as politics, growth, Africa, and marketing efficiency, indicating a linkage between political factors and economic growth across various regions, especially in Africa (Chiang, 2021). The emerging nodes show that political dynamics and government policies significantly influence economic growth rates and investment distribution, with regional contexts like Africa playing a strategic role (Reivan-Ortiz et al., 2023). Additionally, the marketing efficiency indicator in this cluster suggests that communication and information distribution strategies are also critical in enhancing economic competitiveness through appropriate policy measures (Yıldız, 2021).

d) Yellow Cluster: The yellow cluster brings together terms like blockchain, technology, and review, underscoring the role of technological innovation in reshaping the modern financial landscape (An, Choi, & Huang, 2021). The focus on blockchain and related technologies indicates that the adoption of digital innovations is not limited to technical advancement but also involves critical reviews of implementation effectiveness (Hairudin et al., 2022). The inter-node relationships in the yellow cluster highlight the importance of thorough reviews of the latest technologies to ensure that financial systems can integrate innovations efficiently and securely (Spurr & Ausloos, 2021).

Overall, this VOSviewer map illustrates the structure and concentration of research covering technical aspects, uncertainty, political dynamics, and digital innovation in a financial context. The implications of this analysis indicate that a holistic understanding of the interactions among financial technology, political policy, and global crises is crucial for developing adaptive investment strategies and economic policies (Changani, 2024; Madani & Ftiti, 2022; Chiang, 2021; An, Choi, & Huang, 2021).
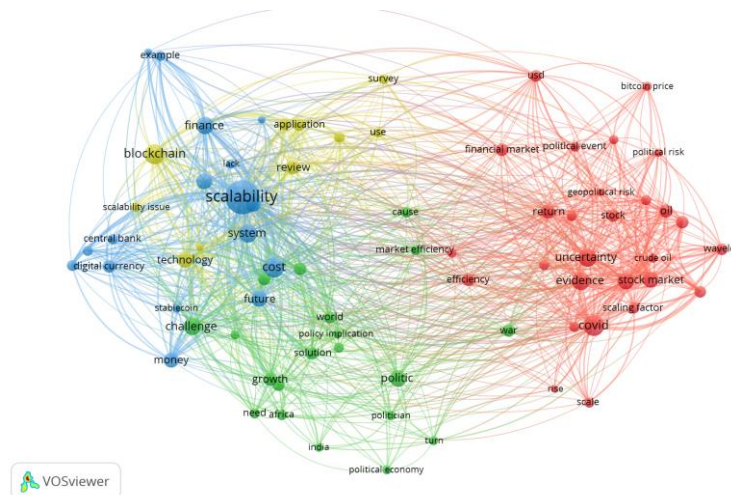

Figure 1. Key Topics Political Policy Influence on Gold/USD Prices

Figure 2. Relative Topics about Scalability

Here is the analysis of term frequency and relevance generated by VOSviewer (see Figure 2):

a) Cluster of Terms by High Relevance: Terms with high relevance (>1.0) denote keywords that are highly distinctive and frequently occurring in closely related literature. Some examples include:

- "Wavelet," "pandemic," "oil," "gold price," "stock price," "covid," "political factor," and "political risk," all of which have relevance scores above 1.5 and indicate that this body of research extensively examines the impact of major events—such as pandemics and geopolitical conflicts—on financial markets, particularly gold and oil (Mensi, Vo, & Kang, 2022; Alam, Tabash, Billah, Kumar, & Anagreh, 2022).

- Terms like "blockchain," "CBDC," and "digital currency" are also highly relevant (relevance >1.0), reflecting emerging topics in modern financial systems and the growing role of technological innovation in finance (Allen, Gu, & Jagtiani, 2022; An, Choi, & Huang, 2021).

b) Terms with High Frequency: The most frequently occurring terms include "scalability" (178 occurrences), "blockchain" (62), "cost" (62), "system" (51), "finance" (46), "politic" (44), "technology" (42), and "stock market" (41).

- This suggests that the research focus revolves around how new technologies—particularly blockchain—are challenged by scalability and cost-efficiency issues, as well as the role of financial systems and global politics in supporting or hindering their adoption (Songwe, Stern, & Bhattacharya, 2022; Morillon, 2022).

c) Intertopic Relationships:

- "Scalability," "cost," "blockchain," "CBDC," and "digital currency" are strongly interlinked, indicating a research emphasis on the broad implementation challenges of digital finance transformation (Allen, Gu, & Jagtiani, 2022).

- Terms such as "gold price," "oil," "stock market," and "covid" frequently co-occur, underscoring the influence of global crises on commodity and safe-haven asset price movements (Madani & Ftiti, 2022; Mensi, Sensoy, Vo, & Kang, 2020).

- "Political risk," "geopolitical risk," "policy implication," and "regulation" together highlight the connection between policy uncertainty and market instability (Reivan-Ortiz et al., 2023; Chiang, 2021).

d) Distribution and Implications: The term distribution reveals two primary poles:

- Financial and Digital Technology: Focused on CBDC, blockchain, stablecoin, system efficiency, and policy implications (Hairudin, Sifat, Mohamad, & Yusof, 2022).
- Geopolitical Risk and Global Crises: Covering pandemics, wars, gold/oil prices, and economic uncertainty (Fernández-Avilés, Montero, & Sanchis-Marco, 2020; Matkovskyy, Jalan, & Dowling, 2020).

The implication is that there is a critical need to manage the scalability of financial technologies within an unstable macroeconomic and political environment.

Table 1. Relevance of Political Policy

Term	Occurrences	Relevance
wavelet	16	2.32
pandemic	21	2.26
oil	29	2.15
stock price	15	1.98
stock	26	1.9
gold price	25	1.89
stock market	41	1.89
cbdc	15	1.76
central bank digital currency	18	1.63
scaling factor	20	1.59
political risk	11	1.55
crude oil	14	1.54
covid	66	1.53
political factor	16	1.5
oil price	43	1.44
digital currency	25	1.32
stable coin	12	1.28
scale	16	1.25
geopolitical risk	11	1.23
africa	20	1.23
political event	16	1.21
defi	10	1.17
central bank	16	1.17
evidence	54	1.13
uncertainty	54	1.13
fintech	14	1.12
rise	11	1.09
blockchain	62	1.08
political economy	13	1.08
period	14	1.05

Based on the VOSviewer visualization and the term-relevance table, it is evident that research on the impact of fundamental political policies on gold/USD prices is driven by several major themes. First, clusters with high relevance scores (>1.5) such as wavelet, pandemic, oil, gold price, and stock price indicate the dominant use of wavelet-based analysis methods to capture the volatility dynamics of gold prices amid

major events like the COVID-19 pandemic and oil price fluctuations (Soni, Nandan, & Chatnani, 2023; Mensi, Sensoy, Vo, & Kang, 2020). Second, the focus on political factors and political risk underscores that the literature not only emphasizes technical aspects but also examines how political uncertainty and geopolitical risk influence gold's behavior as a safe-haven asset (Chiang, 2021; Alam, Tabash, Billah, Kumar, & Anagreh, 2022).

Furthermore, the high frequency of terms such as scalability (178 occurrences), blockchain (62), cost (62), and system (51) reflects strong attention to the operational and economic challenges of implementing new financial technologies like CBDC and blockchain (Songwe, Stern, & Bhattacharya, 2022; Allen, Gu, & Jagtiani, 2022). The close co-occurrence of these terms shows that issues of cost-efficiency, system capacity, and scale are often discussed together when addressing the adoption of digital innovations within monetary and fiscal policy frameworks (An, Choi, & Huang, 2021).

The intertopic relationships in the VOSviewer map for example, the strong connections among blockchain, CBDC, and digital currency illustrate a research trend toward digital transformation in the financial sector and how fundamental policies must adapt to the emergence of new assets and instruments (Hairudin, Sifat, Mohamad, & Yusof, 2022; Fernández-Avilés, Montero, & Sanchis-Marco, 2020). Likewise, the association between gold price, stock market, and COVID reinforces that the global crisis triggers sharp negative correlations between gold and other risk assets, thereby strengthening gold's role as a hedge/safe haven in investment portfolios (Madani & Ftiti, 2022; Mensi, Vo, & Kang, 2022).

The bibliometric analysis revealed that the scalability and CBDC cluster dominate, signaling that central banks must design digital currencies with robust transactional capacity and cost efficiencies to maintain confidence in fiat systems (Allen, Gu, & Jagtiani, 2022). Without such scalability, investors are likely to redirect capital into gold safe-haven positions when political uncertainty undermines trust in government-backed money (Madani & Ftiti, 2022). Equally, the uncertainty and COVID-19 cluster shows that exogenous shocks and uneven policy responses materially exacerbate gold/USD volatility, highlighting the need for integrated risk frameworks (Mensi, Sensoy, Vo, & Kang, 2020). Asset managers are therefore advised to incorporate real-time political risk and pandemic policy indices into dynamic hedging models to mitigate sudden price swings (Gupta, Santosh, Arora, Ciano, & Mohan, 2022).

The politic-growth-Africa cluster demonstrates that regional development agendas and marketing efficiencies significantly influence local gold demand, suggesting that emerging-market governments can channel household savings into productive investments through targeted financial inclusion programs (Reivan-Ortiz, Cong, Wong, et al., 2023). In particular, African policymakers can leverage these insights to stabilize their economies by integrating gold market mechanisms into broader growth strategies (Yıldız, 2021). Finally, the blockchain-technology cluster highlights the transformative potential in traceability, automated settlement, and counterparty-risk reduction, which may recalibrate investor trust in both digital and physical gold markets (An, Choi, & Huang, 2021). As blockchain platforms mature, they are poised to offer novel solutions for enhancing transparency and efficiency in gold trading, further intertwining technological innovation with monetary policy outcomes (Cao & Ling, 2022).

In today's real-world context, the primary implication of these findings is the need for a holistic policy approach—integrating advanced quantitative analyses (such as wavelet and multifractal methods), robust financial technology infrastructure, and anticipation of political uncertainty and global crises—to maintain stability in gold markets and the USD exchange rate (Wang, Chang, Zuo, & Zhou, 2024; Reivan-Ortiz et al., 2023). Modern monetary policy must be more adaptive to geopolitical risks, while regulators and industry participants should address scalability and cost considerations when deploying innovations like CBDC, blockchain, and stablecoins so that the transition to a digital finance era does not generate systemic disruptions (Morillon, 2022; Qin, Su, Hao, & Tao, 2020; Budějovice, n.d.).

Conclusion

This bibliometric analysis has mapped and synthesized 1,000 publications (2020–2025) to reveal four dominant research clusters scalability and digital finance systems, policy uncertainty and crisis impacts, market efficiency and political dynamics, and emerging financial technologies demonstrating how fundamental political policies shape gold/USD price movements. By highlighting high-relevance terms such as wavelet, pandemic, scalability, blockchain, and political risk, the study confirms the centrality of advanced quantitative methods, geopolitical shocks, and technological innovation in understanding market behavior (Mensi, Sensoy, Vo, & Kang, 2020; An, Choi, & Huang, 2021).

This bibliometric study demonstrates that the scalability and CBDC cluster overwhelmingly dominate current research, indicating that central banks must ensure their digital currencies possess the high transactional capacity and cost-efficiency to prevent capital flight into gold under political uncertainty (Allen, Gu, & Jagtiani, 2022). The strong link between political instability and gold safe-haven demand further underscores the need for policymakers to maintain transparent communication strategies to bolster confidence in fiat systems (Madani & Ftiti, 2022). Likewise, the pronounced emphasis on uncertainty and COVID-19 impacts reveals that exogenous shocks significantly amplify gold/USD volatility, compelling asset managers to integrate real-time political risk and pandemic-policy indices into dynamic hedging frameworks (Mensi, Sensoy, Vo, & Kang, 2020; Gupta, Santosh, Arora, Ciano, & Mohan, 2022).

Moreover, the politic-growth-Africa cluster illustrates that regional development policies and marketing efficiencies play a pivotal role in shaping local gold demand, suggesting that emerging-market governments can stabilize economies by embedding gold-based financial inclusion programs within broader growth agendas (Reivan-Ortiz, Cong, Wong, et al., 2023; Yıldız, 2021). Finally, the blockchain-technology cluster highlights the transformative potential of distributed-ledger innovations for enhancing traceability, automating settlements, and reducing counterparty risk, which collectively can recalibrate investor trust in both digital and physical gold markets (An, Choi, & Huang, 2021; Cao & Ling, 2022). Taken together, these insights offer a concise roadmap for aligning digital-currency infrastructure, risk-management frameworks, regional policy initiatives, and technological innovation to more effectively navigate and leverage the nexus between fundamental political policies and gold/USD price dynamics.

From a managerial perspective, financial institutions and policymakers should integrate digital finance infrastructure such as CBDC and blockchain platforms—with traditional market monitoring to enhance system resilience and cost efficiency, especially under conditions of heightened political uncertainty (Allen, Gu, & Jagtiani, 2022). Theoretically, this research extends safe-haven and hedge literature by demonstrating the utility of bibliometric mapping in uncovering multidimensional interactions among policy, technology, and macroeconomic shocks (Madani & Ftiti, 2022).

Limitations of this study include its reliance on a single bibliographic source (Google Scholar), which may omit specialized journals indexed elsewhere, and its focus on the 2020–2025 period, potentially overlooking earlier foundational work. As a direction for future research, scholars should incorporate multiple databases (e.g., Scopus, Web of Science), apply mixed-methods designs combining bibliometrics with econometric modeling, and investigate emerging crises or policy shifts beyond the COVID-19 era to deepen insights into gold/USD dynamics.

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